FACE INVESTIGATION

SUBJECT: Plaster Laborer Dies After Falling From a Scaffold

SUMMARY:

A 59 year old male plaster laborer (the victim) died after falling from a scaffold and striking his head on asphalt pavement. The victim and a co-worker had erected the welded tubular scaffolding on the outside wall of a single-story building, and planned to bring the railings and access ladder to the worksite the next day. Near the end of the workday, the victim returned extra tools and equipment to the supply truck, removed his safety helmet, and returned to the scaffold area. The co-worker was positioned on the top of the unguarded scaffold, 12 feet from the ground, when the victim started to climb the scaffold bracing. The co-worker was turned away from the victim, but heard a clanging sound on the bracing. He turned to see the victim lying on the ground, and called to an employee of a nearby business to summon an ambulance. The ambulance transported the victim to an emergency room, where he died 6 hours later of head injuries. The FACE investigator concluded that, to prevent similar occurrences, employers should:

! **ensure that safe access is provided to the work platforms of all scaffolds**

! **ensure that adequate fall protection is used by workers on scaffolds**

! **evaluate their current written safety program and incorporate specific training procedures that emphasize the importance of recognizing and avoiding hazards in the workplace. These procedures should include, but not be limited to, conducting hazard evaluations before initiating work at a job site, and implementing appropriate controls**

! **encourage workers to actively participate in workplace safety**

In addition, manufacturers of protective headwear should:

! **continue research and development of protective headwear that would eliminate or reduce the severity of injuries from falls.**

INTRODUCTION:

On August 15, 1994, a 59-year-old plaster laborer died from injuries received in a fall from a scaffold. On September 15, the Wisconsin FACE investigator was notified of the fatality by the Wisconsin Department of Industry, Labor and Human Relations, Worker's Compensation Division. On December 7, 1994, the FACE field investigator conducted an investigation of this incident. The incident was reviewed with the employer, and reports were obtained from the coroner, OSHA, and the state climatologist. The police department report and photos of the incident site were reviewed.

The employer was a plaster and steel frame contractor that had been in business for about 20 years and employed about 35 workers on a year-round basis. The superintendent directed a safety program that included a written general safety policy, periodic worksite visits, and
weekly toolbox safety meetings. Task-specific safety procedures, including working on scaffolds, were unwritten but were communicated verbally to employees. Records had been maintained of employee participation at the safety meetings for over two years, and there was no record that the victim had attended any safety talks related to fall prevention or scaffold safety during that time. The victim had been employed by the company for 14 years, and had worked on scaffolds frequently. The company provided on-the job training to employees, including training on appropriate use of personal protective equipment. This was the company's first fatality.

INVESTIGATION:

The employer had been contracted to do outside plaster work at a single-story department store that was being remodeled to serve as a bank. The victim and co-worker were assigned to assemble welded tubular scaffold on the exterior west wall of the building in preparation for the next day's work of plastering the wall. On the morning of the incident, the victim made a list of the supplies and equipment that would be needed at the worksite, and loaded the items in a truck. Although the list included scaffold guardrails and an access ladder, and these items were available in the company supply building, they were not taken to the site. The victim and co-worker assembled sections of scaffold platforms along the wall throughout the day. The scaffold platform involved in the incident was 12 feet high, approximately 7 feet long and 4 feet wide with scaffold planks forming the worksurface at the 12 foot height. Two sets of metal crossbraces were installed on each of the 7 foot sides of the platform. They finished the assembly work about 2:30 pm, taking a lunch break and frequent breaks for fresh water which was available in a portable container. The weather was sunny and dry, and the high temperature of the day was 80 degrees. The victim wore construction boots, blue jeans, a tee shirt and construction safety helmet throughout the day. The victim loaded the truck with the extra supplies, tools and equipment, and removed his hard hat and left it in the truck. He returned to the scaffold to assist the co-worker in snapping a chalkline in preparation for the next day's work. The co-worker was positioned on the top of the unguarded scaffold, 12 feet from the ground, when the victim started to climb the scaffold bracing. The co-worker was turned away from the victim, but heard a clanging sound on the bracing. He turned to see the victim lying on the ground, and called to an employee of a nearby business to summon an ambulance. The ambulance transported the victim to an emergency room, where he died 6 hours later. An autopsy was conducted, which revealed a fracture of the skull in the right temple area.

CAUSE OF DEATH:
The death certificate lists the cause of death as craniospinal injuries.

RECOMMENDATIONS/DISCUSSION

Recommendation #1: Employers should ensure that safe access is provided to the work platforms of all scaffolds.

Discussion: Scaffolds should be equipped with a means for safe access to the work platform. 29 CFR 1926.451 (a) (13) states "*General requirements* ..An access ladder or equivalent safe access shall be provided." ANSI A10.8-1988, standard for Construction and Demolition Operations - Scaffolding - Safety Requirements, specifies safe means of access in 4.18, including portable ladders, scaffold frame, "hook-on" ladders, step or stair access, or direct access from adjacent structure or a personnel hoist. It also states "Crossbraces shall not be used as a means of access or degress." In this incident, "ladder" was included on the employee's list of equipment, but it was not brought to the site for an unknown reason, and there was no other safe means for accessing the 12 foot high platform. The victim apparently climbed the scaffold bracing, and either fell from the bracing or from the platform.

Recommendation #2: Employers should ensure that adequate fall protection is used by workers on scaffolds.

Discussion: Fall protection should be provided for employees who are working on elevated worksurfaces on scaffolds. 29 CFR 1926.451 (a) (4) states *"General requirements* ..Guardrails and toeboards shall be installed on all open side and ends of platforms more than 10 feet above the ground or floor.. Scaffolds 4 feet to 10 feet in height,...shall have standard guardrails installed on all open sides and ends of the platform." The victim in this incident had prepared a list of equipment to be taken to the worksite, including "rails", but guardrails were not taken to the site for an unknown reason, and there was no other fall protection system in place. The victim apparently climbed the scaffold bracing and either fell from the bracing or from the platform.

Recommendation #3: Employers should evaluate their current written safety program and incorporate specific training procedures that emphasize the importance of recognizing and avoiding hazards in the workplace. These procedures should include, but not be limited to, conducting hazard evaluations before initiating work at a job site, and implementing appropriate controls.

Discussion: Safety programs should be evaluated and training programs incorporated which emphasize the importance of recognizing and avoiding hazards in the workplace and following established safe work procedures. In this incident, the hazards of climbing on scaffold crossbraces and working on a 12 foot high unguarded platform without fall protection equipment was apparently not recognized by the workers.

Recommendation #4: Employers should encourage workers to actively participate in workplace safety.

Discussion: Employers should encourage all workers to actively participate in workplace safety and should ensure that all workers understand the role they play in the prevention of occupational injury. In this instance, the co-worker was working on an unguarded, 12 foot high platform, and the victim climbed scaffold crossbraces to reach the platform. Workers and co-workers should look out for one another's safety and remind each other of the proper way to perform their tasks. Employers must instruct workers of their responsibility to participate in

making the workplace safer. Increased worker participation will aid in the prevention of occupational injury.

Recommendation # 5: Manufacturers of protective headwear should continue research and development of protective headwear that would eliminate or reduce the severity of injuries from falls.

Discussion: Protective headwear for construction workers is designed to meet standards for limited protection against forces of electricity, impact, penetration, and flammability (ANSI Z89.1-1986). The victim in this incident removed his protective headwear prior to climbing the scaffold, however, the current standards are not intended to protect a worker against the forces that might be encountered from the impact of a fall from a scaffold. Personal protective equipment manufacturers and standard-setting organizations should be encouraged to continue research on materials and design of headwear that would provide increased protection against the impact of falls.

REFERENCES

29 CFR, 1926.451 (a) Code of Federal Regulations, U.S. Government Printing Office, Office of the Federal Register.

ANSI A10.8-1988 - Standard for Construction and Demolition Operations - Scaffolding - Safety Requirements, 4.18 , P. 16.

ANSI Z89.1-1986 - Standard for Personnel Protection - Protective Headwear for Industrial Workers - Requirements, P. 7 - 19.